

X-Ray Techniques To Probe Ancient Pyramids In Egypt

Will atomic energy unlock the age-old secrets of the pyramids? One of the most persistent beliefs of archaeology — that the real burial chambers of the Pharaohs have remained hidden in the Pyramids for 4,500 years — may be either disproved or supported through use of the most advanced scientific techniques.

A cooperative United States-United Arab Republic investigation of this possibility will be made under a recent agreement entered into by US and UAR governments.

The agreement sets in motion a study by an international team of scientists headed by Dr. F. El Bedewi, nuclear physicist of Ein Shams University, Cairo, and a member of the UAR Atomic Energy Commission; Dr. A. Fakhry, archaeologist and well-known authority on the pyramids, UAR Department of Antiquities; and Dr. Luis Alvarez leader of a group of University of California research physicists at AEC's Lawrence Radiation Laboratory, Berkeley.

The overall responsibility for the project will be vested in a committee of UAR scientists, scholars and administrators.

To Probe Thru Stone

In a few months the scientists will use an ingenious technique to "X-ray" the Second Pyramid of Chephren, at Giza, to determine whether undiscovered burial chambers exist in the huge mass of stone.

The method has been adapted from techniques used in cosmic ray and particle accelerator research and uses an array of cosmic ray detectors to obtain an accounting of the numbers of such particles that pass through the pyramid. AEC and Smithsonian Institution interest in the project is primarily one of proving out the technique rather than the archaeological search for chambers which centuries of investigation have failed to uncover. If the method is successful, it may then be possible to experiment in the same manner at the Great Pyramid of Cheops, also at Giza, in the same manner.

This approach to archaeology, using the techniques of cosmic ray physics, was proposed by Dr. Alvarez, and the detailed experimental plan was elaborated jointly by UAR and U.S. scientists.

Ancient Theory

The basis for the experiment is the deception theory which holds that the Egyptian monarchs, wary of grave robbers and anxious to preserve their bodies for immortality, ingeniously planned their pyramids in such a way as to mislead future generations into believing that the tombs had already been ransacked.

If this theory is correct — and it has had adherents among many generations of Egyptologists — then the passageways and chambers so far discovered in the major pyramids may be relatively less important than those yet to be discovered. Or perhaps the method will end the persistent hope that there remain to be discovered tombs rich with artifacts of ancient Egypt and still bearing the king's mummy.

Advocates of the deception theory recall that several upper chambers of the Great Pyramid of Cheops apparently survived

Continued on Page 4

Uranium Usage Continues Climb

The demand for enriched uranium increases. Current orders for enriched uranium hexafluoride (UF_6) from the Oak Ridge Gaseous Diffusion Plant are already nearly double the total shipped last year.

The use of UF_6 for power and research has steadily increased during the past three years. Shipments during 1965 (577,700 pounds of UF_6 , valued at \$46 million) almost tripled those of 1964 (203,000 pounds valued at over \$16 million). Through June of this year, requests for over \$71 million worth of the material have been received.

Responsible for the notable increases is a big demand from electric power reactors in the United States and abroad in conjunction with regular U.S. Atomic Energy Commission requirements.

Materials in the 1966 requests are destined for the Connecticut Yankee, Pathfinder, Big Rock Point, and Oyster Creek reactors in the United States; the El 4 reactor in France; the Lingen and VAK reactors in West Germany; and the Tarapur reactor in India.

TVA Application Filed With AEC

The Atomic Energy Commission has received an application from the Tennessee Valley Authority for a permit to construct the Browns Ferry Nuclear Power Station on Wheeler Reservoir near Decatur, Alabama. The station would have two boiling water reactors located on an 840 acre site in Limestone County. Each unit would have a gross electrical output of approximately 1,098,000 kws. Both units would be housed in a single building.

TVA recently announced plans for the application.

The application will be reviewed by the AEC regulatory staff and by the Commission's Advisory Committee on Reactor Safeguards. Before the AEC can make a determination on the application, a public hearing must be held.

SAFETY SCOREBOARD

The Y-12 Plant Has Operated 51 Days Or 1,356,000 Man-Hours Through July 24 Without A Disabling Injury
Phone 3-7755
(Unofficial Estimate) For Daily Report On Accident-Free Hours



ACCEPTING THE NATIONAL SAFETY COUNCIL'S Award of Honor is Dr. Glenn T. Seaborg, Chairman, Atomic Energy Commission. From left are Robert E. Hollingsworth, general manager, AEC; John V. Vinciguerra, assistant general manager for administration; Dr. Seaborg; Governor Howard Pyle, president of the National Safety Council; Nelson Bortz, director of the Bureau of Labor Standards; James T. Ramey, AEC Commissioner; and Daniel F. Hayes, Chief of Industrial Safety and Fire Protection Branch, Division of Operational Safety, AEC.

Safety Council Awards AEC Merit Award

The National Safety Council's highest award for an outstanding industrial safety award — the Award of Honor — was recently given the U.S. Atomic Energy Commission. AEC Chairman Glenn T. Seaborg accepted the award in ceremonies recently at headquarters near Germantown, Maryland.

Dr. Seaborg accepted the plaque on behalf of the Commission and its contractor employees. The award was presented by Governor Howard Pyle, President of the National Safety Council. Nelson Bortz, Chief of the Bureau of Labor Standards, Department of Labor, participated in the ceremonies.

The award plaque reads: "National Safety Council Award of Honor Presented to U.S. Atomic Energy Commission and Contractors for Outstanding Safety Performances, 1965."

This is the sixth time the AEC has earned the award. The Commission's safety record for the years 1955, 1960, 1962, 1963 and 1964 also took like awards.

Frequency Rate Drops

In 1965 the accident frequency rate for AEC and its contractors was 1.73 injuries per million man-hours worked, as compared with the 6.53 all-industry average computed by NSC. (Y-12's frequency rate for last year was 0.39 . . . only a quarter as high as the entire AEC's.) The frequency rate of 3.13 injuries per million man-hours was chalked up for the chemical industry where operational safety problems may be considered comparable with those of the atomic energy program.

There were no lost-time radiation injuries in 1965 arising out of the handling or processing of radioactive materials by AEC or contractor employees. The only two lost-time injuries attributable to radiation sources were due to failures of precautionary devices on commercial X-ray ma-

Continued on Page 4



THE AWARD OF HONOR, the National Safety Council's highest award, is here presented by Governor Howard Pyle to Dr. Glenn T. Seaborg. The citation reads: "National Safety Council Award of Honor Presented to U. S. Atomic Energy Commission and Contractors for Outstanding Safety Performance, 1965."

R. M. Hayborn Leads Physics Division Seminar

R. M. Haybron will conduct this week's Physics Division seminar. His topic will be "Inelastic Scattering of Protons from Light Nuclei."

The seminar is set for Friday, July 29, at 3:15 p.m. in the East Auditorium of ORNL's 4500 building.

SUMMER MONTHS

July and August both got their names from Roman rulers . . . July was named for Gaius Julius Caesar, who was born during this time. August got its name from Augustus Caesar. Too bad they couldn't have found another Caesar to give us another month of "livin' is easy" time!

Y-12's First Leader Announces Retirement

Time marches on. According to the TEC News, official voice of the Tennessee Eastman Company, Dr. F. R. Conklin will retire shortly. Dr. Conklin came to Y-12 in 1943 as works manager. He is currently a works manager and a vice president of TEC. The Tennessee Eastman Company operated Y-12 until May, 1947.

SHOCKING INFORMATION

July Safety Meetings in the Industrial Relations Division centered on Electrical Safety. The human body is a very good conductor for electricity . . . and the amazing facts to emerge were that it takes so little amperage to do serious damage to a man.

The Bulletin

Published Weekly For The
Y-12 Employees Of
UNION CARBIDE
CORPORATION



NUCLEAR DIVISION

JAMES A. YOUNG *Editor*

Member



Appalachian
Industrial
Editors'
Association

American Association Industrial Editors

OFFICE

Post Office Box Y
Oak Ridge, Tenn. 37830
Bldg. 9704-2 Room 137
Telephone 3-7100

Higdon Writes Safety Article

Old-timers around the plant remember Arnold Higdon, former Safety Engineer. In the June issue of the American Society of Safety Engineers, a letter appeared from Arnold, written from Alexandria, Louisiana. It will be of interest to all safety-minded employees as well as those who recall Higdon.

"After nearly 30 years in safety engineering, despite all my experiences, education and special training, I must confess that I have not conquered my number one problem — the human being.

"I have not been without a certain degree of success as evidenced by several National Safety Council 'Awards of Honor,' 'Awards of Merit' and an assortment of plaques and trophies from other official sources. But my number one problem remains unconquered.

"Right now I am interested in why it is so nearly impossible for the 'problem' (human being) to go back and forth safely when traveling by vehicle. As evidenced by nationwide statistics, seat belts are not the answer. Neither are driver training, vehicle safety inspection laws, drivers licensing laws, highway engineering nor committees on the local, state and nation level.

"The first step toward solving this problem is tremendously increased enforcement. I feel that my efforts would be far more effective if I am able to visit the jail and see these people free of injury and still alive to say 'didn't I tell you?' than to visit them in the hospital or the morgue where they are unable to answer.

"I would like to invite all safety engineers, lawyers, doctors and highway engineers to join in a nationwide campaign to encourage local, state and national effort to increase our highway enforcement capabilities.

"Then and only then will seat belts, vehicle safety inspection laws, license laws, driver training, highway engineers and committees, committees and committees, have any effect on the expected 70,000 fatalities annually in vehicle accidents."

Linde Division Helps Surveyor On Moon

The successful soft landing of the 620-pound Surveyor spacecraft on the moon had Carbide help. The flame-plated titanium shock absorbers were plated with tungsten carbide by the Linde Division of Union Carbide. The process is the only one that can be used to coat titanium effectively.



July fades . . . August, with its long, hot days enters the scene. Other Y-12ers join the ranks of milestone-crossers . . . veterans with Union Carbide Corporation. Congratulations.

20 YEARS

Mark D. Griffiths, Dimensional Inspection, July 28.

Herschel L. Hixon, Machine Maintenance, July 29.

15 YEARS

Dexter N. Williams, Research Services, July 27.

Edna M. Buchanan, Chemical Services, July 30.

Bobby A. Cooper, General Machine Shop, July 30.

James R. Ownby, Electrical Department, July 30.

Thomas E. Todd, Dispatching Department, July 30.

Willie T. Wright, Chemical Services, July 31.

Marlin S. Dill, Production Analysis, July 31.

Thomas H. Barton Jr., Production Analysis, July 31.

Jasper C. Howard, Buildings, Grounds and Maintenance Shops, August 1.

Donald H. Allen, General Machine Shop, August 1.

Phillip J. Breman, General Mechanical Engineering, August 1.

10 YEARS

Samuel W. Turner, Salvage Department, July 30.



Ride wanted from Pleasant Ridge Road, Knoxville, to North or Central Portal, straight day. Larry Bohanan, plant phone 3-7308, home phone Knoxville 524-7189.

Riders or car pool members wanted from Island Home Section, South High School Section via Western Avenue, Solway Highway Route to any portal, straight day. W. H. Sherrod, plant phone 3-7077, home phone Knoxville 577-0295.

Ride wanted from Indian Lane, Oak Ridge, to East or Biology Portals, straight day. Jack Halburnt, plant phone 3-5634, home phone Oak Ridge 482-2670.

Will join car pool from Bearden Section, Knoxville, to East Portal, straight day. Buddy Miles, plant phone 3-5059, home phone Knoxville 588-9342.

Iris Story Brings California Letter

A recent article in the Y-12 Bulletin brought Arnold Agee an inquiry from California.

"Dear Mr. Agee,

"I wish to tell you how much I enjoyed reading the article in the Y-12 Bulletin about your lovely iris garden.

"As a native of Tennessee, the flower is still dear to my heart, especially the less common varieties. I have ordered several catalogues from all over the country but the selection of bulbs is very limited.

"I have enclosed an addressed-stamped envelope if you would be so kind to send a list of garden centers where one might order the unusual specimens of the iris."

Sincerely,
Connie Pluhar

W. S. Everett Sr., J. V. Overton, R. S. Phillippi, Elma Harber And Fred Hawk Retire From Y-12

After a month's rest from scheduled retirements . . . the march continues this month. William S. Everett Sr., Utilities Administration; Joseph V. Overton, Guard Department; and Raymond S. Phillippi, H-1 Foundry, are regular retirees Friday, July 29.

Electing early retirement are Mrs. Elma O. Harber, Chemical Services; and Fred J. Hawk, Chemical Services.

Among the well-known old-timers leaving this month is William S. Everett Sr. A native of Mount Juliet (down in Middle Tennessee) Bill has worked in all three AEC plants in Oak Ridge, starting in ORNL (when DuPont managed the place) . . . then transferring to ORGDP. He came to Y-12 October 21, 1953.

He and Mrs. Everett (the former Mattie Smith) live at 301 West Outer Drive. Their only son W. S. Jr. is employed in Y-12 also. And three grandsons help sparkle the family gatherings.

Came Here With DuPont

Everett began his working career farming in Middle Tennessee in 1917. In 1929 he became associated with DuPont, first at Old Hickory, then in Pryor, Oklahoma; then finally in Oak Ridge.

Future plans for the Everetts include plenty of fishing and hunting . . . and an occasional winter in Florida.

Former Schoolteacher

The early 20's found Hawk teaching school in Roane and Fentress counties, after he had attended Lincoln Memorial University, Harrogate. In 1925 he became a store manager for the Amherst Coal Company, Amherstdale, West Virginia. This kept him occupied until he hired into Y-12 May 9, 1944.

Mrs. Hawk is the former Margaret Broadwater. The Hawks have two children . . . Margaret, who is with her Navy husband in Japan, and Fred W. Hawk, Chicago. There are also four grandchildren.

The colorful Y-12er was honored Saturday night by a dinner party by fellow Y-12ers.

Mrs. Elma O. Harber, the first woman retiree in some time from the plant, did not come here in the real early days of the plant. She hired in April 25, 1951 . . . after raising her big family of five boys and one girl. (Her husband is retired . . . having worked about 13 years for the school system in Anderson County.)

Live In Clinton

The Harber home is at 625 Medaris Street, Clinton. Both the Harbers are home-bodies, they plan to continue living there . . . just taking it easy.

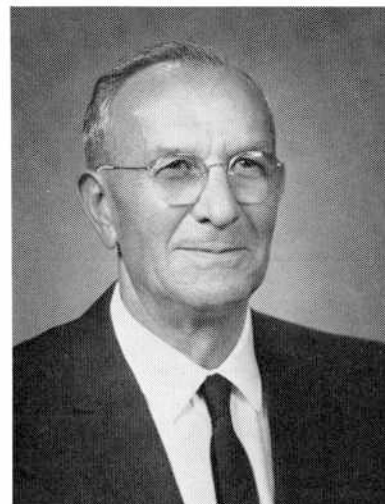
The children are Glen, with the Communications Department; John G. Jr., in Y-12; Paul R. Harber, with the TVA in Alabama; Aaron (a former Y-12er) who works with Miller's, Knoxville . . . and Roy Lee Harber, a bookkeeper in Knoxville, who lives with his family on Edgemore Road. The only daughter, Vestabeth H. Foust, Clinton, works with the AEC. There are also 11 Harber grandchildren.

Mrs. Harber taught school in her youth in Lee County, Virginia. She attended the Radford State Normal School, Radford, Virginia. In the early 40's she returned briefly to teaching . . . but devoted most of her time to her family.

Joseph V. Overton has served two stints in Y-12 . . . coming here first in 1943 . . . and returning on November 19, 1947.

Farmed At Heiskell

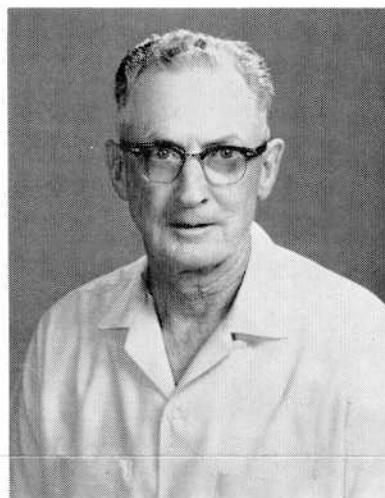
A native of Heiskell, Overton's



William S. Everett Sr.



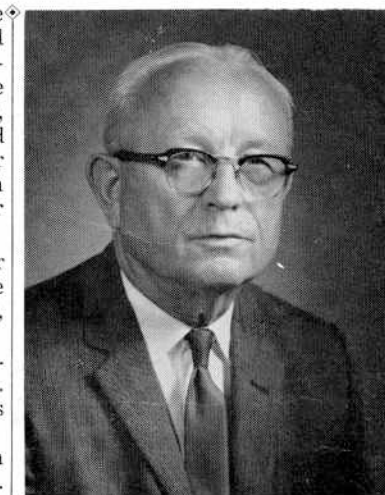
Fred J. Hawk



Joseph V. Overton



Elma O. Harber



Raymond S. Phillippi

youth took him to Detroit where he worked with the Ford and Dodge Motor Companies. He returned to his Heiskell farm in the 30's, but returned to Pontiac, Michigan in 1938 and worked there until coming to Y-12 for the first time. He farmed again briefly before returning here for the second time.

Mrs. Overton is the former Ellen Mae Kilgore . . . and the Overtons live at 312 Cross Street, Clinton.

The retiring guard has no definite plans for retirement . . . says he will just plan things as they come along.

Raymond S. Phillippi was born in Mountain City, Tennessee . . . and is another old-time Y-12er. He came here July 19, 1944.

Another Schoolteacher

Phillippi holds a BS degree from East Tennessee State University, and also attended the University of Tennessee. He taught school in Johnson, Carter, and Polk counties. In Ducktown he taught industrial arts and coached the ball teams. Ducktown High School, Johnson County High and Bristol City High School also found his teaching skills.

In 1942 he went with the TVA in personnel and training, and worked the South Holston Dam, Fontana Dam, Appalachia Dam and Ft. Loudon Dam locations.

Mrs. Phillippi is the former Pauline Peters . . . and they live at 607 Florida Avenue, Oak Ridge. There are two daughters, Mrs. Eleanor Defenderfer, Oak Ridge; and Mrs. Mary L. Waddell, also of Oak Ridge. There are five grandchildren.

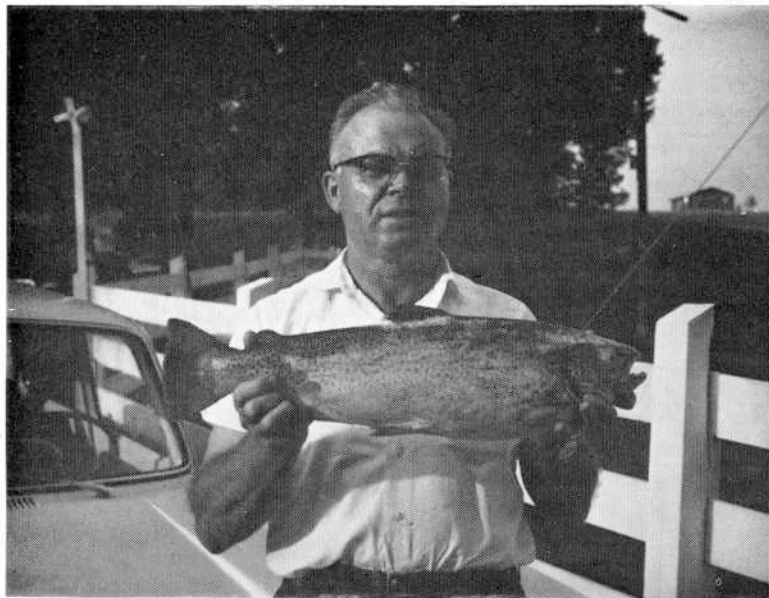
According to his wife, Ray says he will stay in Oak Ridge. He has a woodworking shop in the

basement of his home. Not working will give him some extra time for hunting and fishing, which certainly gets put aside when there's a regular job to go to.

The entire plant salutes the long and good years devoted to company service by the five retiring employees. The best wishes of every co-worker goes with them as they leave Friday.

Baby Sub On Display At 270 Park Avenue

The Perry Cubmarine, Ocean Systems' "baby sub" is on display at Union Carbide's Building, 207 Park Avenue, New York. The two-man undersea vehicle aided in the search for the missing H-bomb off the coast of Spain. Normally used for pipe and cable inspection, torpedo recovery and general exploration, the craft is capable of working at depths of up to 600 feet.



C. P. McEMORE, BETA TWO, recently pulled this huge brown trout from the waters of the Little T. Mac says the monster fell lure to a Heddon Cobra . . . and highly recommends the waters of the Little Tennessee for the elusive brown trout.

D. E. Littleton Scores 74 To Take Golf Tournament At Niota Competition

Y-12 got a new golf hero for July . . . as D. E. Littleton cashed in on victory, to take the Springbrook tournament Saturday. His 74 was only three over par on the Niota course.

Carl Dorr, victor in the other Y-12 tournaments, fell second with 75; followed by Cotton Thomas, 78; and Bill Hamill, 82.

Handicap winners in division one were Larry Miller, 69; E. P. Braden, 71; Jim George and Hugh Richards, each with 72.

Most pars were gleaned by Red Leach with a total of 10. A. L. Sawyer, Bill Lanter and George Cantrell all had eight.

A total of 95 golfers played the Niota course. Nelson Tibbatts scored a sizzling eagle on number two . . . the five-par 455-yard hole.

SECOND DIVISION

J. Clyde Bowles scored a low 79 to take honors in the second flight. Other scratch winners were D. B. Arnold, S. D. Peters and C. E. Dial, all with 86. Handicap lows went to John Sewell, 71; Sam Shultz, 73; Ed Sise, 74; E. M. Massey and C. C. Carter, both with 75.

Melon Festival Set For Sunday

The watermelons are all being iced for Sunday's big gathering at the Park. E, F, G, H and J Shift folks aren't being exclusive either. They're asking all Y-12ers to join them to share in the summer bounty.

Slicing-time is set for 6 p.m. Sunday, July 31, at the Carbide Recreation Area. The succulent melons are at their peak right now, recreation - advisors say from the shift combo.

There will be drawing prizes to be had too (door prizes, the posters say . . . but there ain't no doors at the park!) by lucky ticket-holders. You (or somebody in the family) should wear a badge to show the blue of Y-12. That's all the admission needed.

The whole immediate family is asked along with you . . . so come and bring the young'uns. They'll enjoy slurping up the pink meat of the delicious fruit!

OVER-SIZED STATE

Natives of West Virginia claim that their state would be as big as Texas . . . if somebody could come along and flatten out their hills.

Fuzz Harris scored seven pars; C. C. Ruckart and Joel Garber each had six.

THIRD DIVISION

Burl E. Henry scored 86 to take scratch honors in the third flight. Bill Hoppe, 88; Nelson Tibbatts, 91 and J. R. Parker, 93, made up the scratch honor roll also in this flight. Handicap laurels went to J. D. Gill, 68; J. K. Cordell, 72; W. D. Burger, 74; and J. P. Hunt, 76.

Ed Fleischman, William K. Forrester and Jim Morehead all tallied with four pars.

FOURTH DIVISION

"Red" McKinley zeroed in with an 86 scratch score to sweep fourth flight lows. He was followed by Joe Pryor, 98; Dick Loveless, 99 and H. M. Hayes, 100. Handicap lows went to Charles Baxter, 70; J. D. Culbertson, 72; G. S. Powley, 73; and E. C. Smith, 75.

Thomas W. Compton scored most pars with four; D. E. Perkins had three.

August's tournament will be staged at Kingston's Southwest Point course on Watts Bar Lake. It is set for Saturday, August 27.

Slow Action Seen In Tennis Play

Tennis League slowed almost to a stop last week . . . with only two matches reported. Ed DelGrande zeroed in on Campbell King to win 8-6, 6-1.

Don Legacy took Jim Froula 6-2, 9-7.

Sam Campbell and Max Scott still sport perfect records in the young Tennis League.

League standings follow:

Player	W	L
Sam Campbell	4	0
Max Scott	2	0
Bill Hackett	3	1
Ed DelGrande	3	3
Don Legacy	2	1
Jim Froula	1	4
Campbell King	1	4
James White	0	2

Being Right Isn't Always Quite Enough

Watch out for the other guy. Maybe you're a good driver. Many drivers are not. So why put yourself at the mercy of some other guy's mistakes? Better to drive defensively. And expect the unexpected. After all, nearly half the drivers in fatal collisions are good drivers, and in the right. But being in the right isn't enough. You could be dead right!

K-25 Mets Down Softball Leaders

Interest in the Softball League got a hypo last week . . . as giant-killing time came to Pinewood Park.

Action began last Monday as ORNL's Bio team lambasted the Peanuts 19 to 8. Pete Wicks, Don Box and Tex Barnett all poled circuit-clouts for the winning mice-men . . . Frank Davis gained a four-bagger for the losers.

A closer tilt resulted in Monday's second game . . . as the Naughts edged by the X-10 Mets 8 to 7. Marvin Payne collected a long triple for the winning team . . . as the Naughts accounted for 15 hits to the Mets 13.

Y-12's Bat Boys downed their fellow-plantsmen the Fireguards 24 to 9 in Monday's closing hours.

The BB crowd tallied 22 hits . . . as the FG's knocked 12.

Y-12's Eagles went down in dust in Tuesday's opener. The Red Devils stung the Y-12 team 18 to 5 . . . as Jim Chesney, Tom Grizzard and Jerry West won four-baggers from the 20 hits collected by the Devils.

Big Ones Fall

Then came game number two Tuesday . . . when the giants fell. The K-25 Mets met the Isotopes-Reactor team, who enjoyed a spotless slate in league standings . . . but no more, no more. The Mets edged by 6 to 4, although they got on base with only 9 hits to the I & R crowd's 11.

Butch Armistead homered for the losing team . . . Bob Henderson for the winners. The Mets took this one in the last inning to cap one of the most exciting games yet in league action.

A close one closed action Tuesday as the Health Physics team eked by K-25 Sports with a 17 to 16 victory. Dave Mason and Bob McRae poled long homers for the winning HP team. Only 19 hits were earned by them . . . opposed to 20 by the K-25 combo. The Sports' Fulton earned a four-bagger in the count.

Thursday's action saw the Ecobums begin play royally by trimming the Sluggers down to size 12 to 8. For the 'Bums it was Homer Tucker, Ernie Neal and Ed Baker with round-trip hits home.

Braves Win Big

Y-12's Braves stayed right up there among the charmed circle by defeating the Falcons 17 to 2.

Homers were hit by Rick Hull, Charley Holland and Jerry Babb . . . Jim Shoemaker made two.

The Clowns closed action last week by clouting the Big Shops 25 to 11. Steve Scott and Elbert Carlton were big heroes with homers for the winners . . . Hezz Nobles clouted one for the losers.

League standings follow:

Team	W	L
Isotopes-Reactor, ORNL	10	1
Braves, Y-12	9	1
Red Devils, ORNL	8	1
Bat Boys, Y-12	8	3
K-25 Mets	7	3
Health Physics, ORNL	7	3
Eagles, Y-12	7	4
K-25 Sports	5	4
Bio, ORNL	5	5
X-10 Mets	5	5
Clowns, ORNL	4	6
Sluggers, ORNL	4	7
Falcons, ORNL	4	7
Naughts, ORNL	3	7
Ecobums, ORNL	2	8
Peanuts, ORNL	2	9
Big Shops, Y-12	1	10
Fireguards, Y-12	0	10

ANCIENT ART

The art of glass-blowing is almost as old as man himself. The Egyptians perfected it into a highly developed art . . . the Romans took the secret home with them when they conquered Egypt before the birth of Christ. Ancient residents of Briton used glass goblets at their feasts.

A good employee is a safe one.



A GROUP OF SKEETERS seen at the recent State Skeet Match in Oak Ridge are from left, in front row, Leland Scandlyn, Fred Welfare. In the second row are Jack Case, Charlie Asmanes, Bob Allstun and Dr. Frank Genella Jr. (Gun enthusiasts in the plant warn Dr. Genella that he can lose a toe propping a shot-gun against his feet, with the breach closed, already!)

State Skeet Shoot Draws Record Crowd of Tennesseans In Ridge

The recent State Skeet Shoot in Oak Ridge drew an almost record crowd. As far as native firers were concerned, it was a record . . . as 121 Tennesseans gathered in Oak Ridge July 15, 16, 17.

Fred Welfare, ORNL . . . former Y-12er, took the 1st runner-up trophy in the .410 gauge class.

Other Y-12ers firing included Charlie Asmanes, Jack Case, Bob Allstun, and Bo Glover.

Regular Carbide tournaments

are held among skeeters each month . . . August's is set for August 7 . . . 1 p.m. Sunday, at the Oak Ridge Sportsmen's Association range. All spectators and skeet enthusiasts are invited to participate. You don't have to be particularly adept at the sport either . . . somebody there will give you proper instructions.

The firing is open to all Carbide employees.

That's Sunday week, August 7 . . . at the ORSA firing range.

Horseshoe League Tightens At Top

The tight Horseshoe League race got tighter last week. The Barger-Luckett team pared eight points at the expense of the Hut-to-Tillery two.

Helms-Wagner took nine at the expense of Gladson-Gallman and five from Raper-Long. Leonard-Gray won five from Raper-Long also. The Zupan - Kendig duo scraped six away from Wyatt-Lucke.

Team	W	L
Harness-Durham	29	7
Barger-Luckett	28	8
Leonard-Gray	25	11
Helms-Wagner	21	15
Zupan-Kendig	16	11
Wyatt-Lucke	18	18
Raper-Long	18	27
Huto-Tillery	3	33
Gladson-Gallman	5	40

Smokey Says:



Keep it that way—
Prevent forest fires!

Recreation



Sunday, July 31

WATERMELON FESTIVAL: 6 p.m. Carbide Recreation Park, Melton Hill. All Y-12ers invited.

Monday, August 1

SOFTBALL LEAGUE: beginning 6 p.m. Pinewood Park. K-25 Mets vs. Big Shops; Sluggers vs. Isotopes - Reactor; Ecobums vs. Peanuts.

TENNIS LEAGUE: As per schedule . . . to be arranged by individual players.

Tuesday, August 2

SOFTBALL LEAGUE: beginning 6 p.m. Pinewood Park. Braves vs. Naughts; Bio vs. X-10 Mets; Red Devils vs. K-25 Sports.

PHYSICAL FITNESS: 7:30 p.m. Oak Ridge High School Gymnasium.

Thursday, August 4

SOFTBALL LEAGUE, beginning 6 p.m. Pinewood Park. Fireguards vs. Clowns; Health Physics vs. Bat Boys; Eagles vs. Falcons.

PHYSICAL FITNESS: 7:30 p.m. Oak Ridge High School Gymnasium.

HORSESHOE LEAGUE: 7 p.m. City Courts, Jackson Square.

Sunday, August 7

SKEET TOURNAMENT: 1 p.m. Oak Ridge Sportsmen's Association range.

Old age doesn't show us too much. But it's better than the alternative!



UNION CARBIDE CORPORATION
NUCLEAR DIVISION

RETURN POSTAGE GUARANTEED

Post Office Box Y
Oak Ridge, Tennessee—37830

BULK RATE
U.S. Postage
PAID
Oak Ridge, Tenn.
Permit No. 71



ENSIGN JAMES G. STUCKEY, right, receives a certificate stating that he had made the Captain's List. Ensign Stuckey, the son of Charles Stuckey, Stores, is in jet training in Meridian, Mississippi.

Stores' Charles Stuckey's Son Makes Captain's List In Navy Flight School

Back in early June, Ensign James G. Stuckey made the "Captain's List" down at Saufley Field, Pensacola. Ensign Stuckey is the son of Mr. and Mrs. Charles Stuckey, Route 6, Clinton. The father is in Y-12's Stores Department.

Jim was graduated from Vanderbilt University in January and received his ensign's commission in the Navy the same day. He majored in sociology at Vandy. Stuckey attended Clinton High School and was awarded a Navy scholarship on graduation.

The Stuckeys have another child . . . a daughter Carol, who is a sophomore at Clinton, and a son David who attends the UT Medical School, Memphis.

Writing his mother recently, Ensign Stuckey said his current training which would last another 12 weeks included two hours each day of ground school, flight status for the remainder of the day. After that he will return to Pensacola for gunnery and carrier-landing practice . . . with over 100 hours of soloing behind him. After the Florida duty, he expects to resume his flying in Texas.

Ensign Stuckey is stationed at Meridian, Mississippi where he is taking jet training. His basic flight training was at Pensacola where the captain's list honor came to him.

New Film Produced On Shear-Leach Process

A new film, "Shear-Leach Process for Spent Nuclear Fuels," has been produced at the Oak Ridge National Laboratory. The 16mm color motion picture illustrates the development of the process. This is a mechanical method for reprocessing spent stainless steel or zircaloy-2 clad power reactor fuels.

Various parts of the huge equipment are portrayed in the picture, as well as the operation of the Shear-Leach with unirradiated fuel. The film also summarizes data obtained from various shearing and leaching tests conducted at ORNL.

Prints may be borrowed from the AEC Film library here and from ORNL.

Ancient Pyramids

Continued from Page 1
discovery for 3,500 years until their accidental detection a thousand years ago.

Buried Treasures?

They also point out, for example, the known substructure of Chephren's Pyramid may be a blind. It is an artlessly simple series of underground corridors terminating in a large subterranean chamber which barely juts into the core of the pyramid. Above the chamber is 470 feet of stone in which, it is suggested, Chephren's architects may have hidden the real burial chambers.

The immensity of the pyramids has prevented random exploratory digging into the great stone masses. Napoleon calculated that the Great Pyramid alone contains enough stone to build a wall around France three meters high and one meter thick. The Great Pyramid, with its original dressed stone outer casing intact, stood about 480 feet high and 755 feet at each base. The base covers about 13 acres, and Chephren's Pyramid is only slightly smaller.

Chephren's Pyramid is ideally suited for the first trial of the "X-ray" technique. The known subterranean chamber is conveniently located and its freedom from rubble provides ample room for spark chambers and associated apparatus.

The international team of scientists plans to announce preliminary results of the Cephren Pyramid experiment at the earliest possible time following analysis of the data.

Safety Council

Continued from Page 1
chines used in examination of sample materials.

400 Lost-Time Mishaps

There were about 400 lost-time injuries among the nearly 120,000 industrial workers in the AEC and contractor programs from conventional causes — falls, moving vehicles, burns, etc. — hazards occurring in any industrial activity. (Y-12 suffered four lost-time accidents last year.) Safety programs have been intensified to reduce such accidental injuries in AEC by 30 per cent by 1970 as part of President Johnson's Mission SAFETY-70 program. The 1965 experience contributed to this goal by a reduction of 21 per cent among federal AEC personnel.

During 1965, 11 AEC Awards of Honor and 21 AEC Awards of Merit were earned by AEC field offices and AEC contractor organizations. It is upon achievements such as these that AEC relies to maintain its leadership in industrial accident prevention.

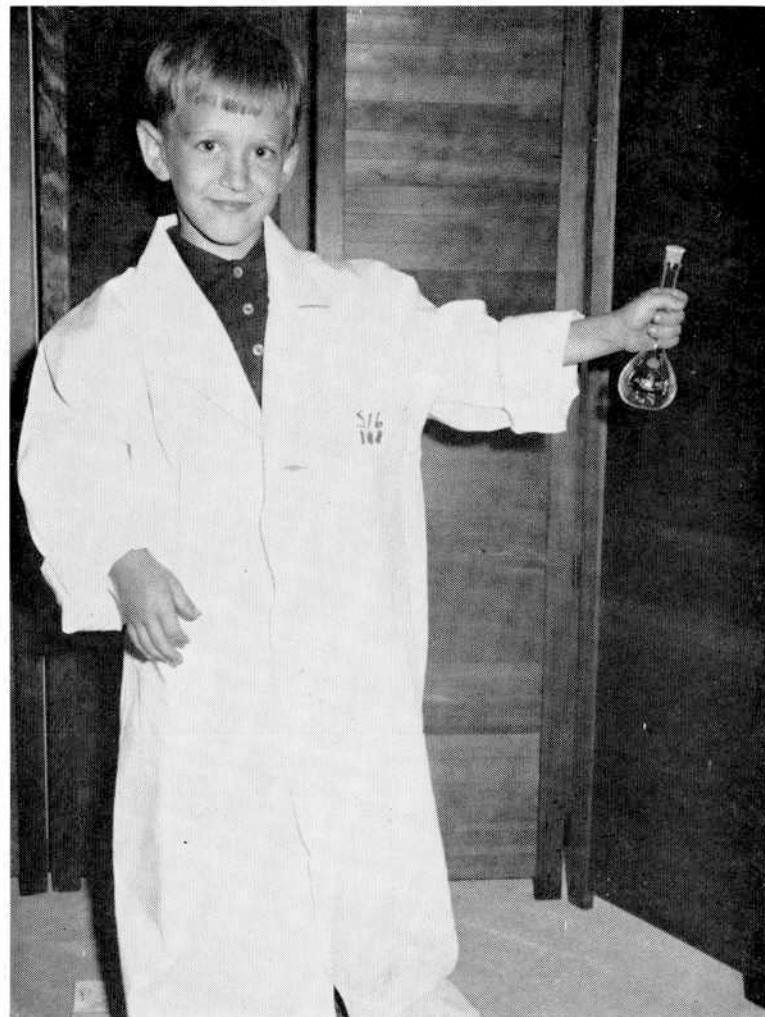
Idaho Sets Record

Out of the 16 AEC field offices, with a total of 7,200 federal employees, 12 offices had no disabling injuries during 1965. Idaho Operations Office established a new record for AEC federal employees in 1965 by operating 3,986,083 man-hours without a disabling injury. This record began January 1962, and is still continuing.

In 1965, 50 per cent of the AEC contractors had no lost-time injuries. Westinghouse Electric Corporation's operations at the Bettis Atomic Power Laboratory, Pittsburgh, Pennsylvania, established a new record for research contractors by completing 19,194,917 man-hours without a lost-time injury.

Transportation Honored

Carco Air Service, Inc., Albuquerque, New Mexico, was presented the Award of Honor in recognition of the company's outstanding safety performance from



THIS CHEMIST'S FORMULA for good government includes interested voters as the basic ingredient, and candidates' rallies as the catalyst. Two rallies are being planned for Anderson County voters by League of Women Voters. The fellow in the lab coat is Steve Wicks, son of Wesley Wicks, Biology Division. Mrs. Wicks is a member of the Oak Ridge LWV's voters service committee.

Candidates To Face Voters In League Rally Friday, Saturday In Anderson

Do you want to look the candidates over before voting in Thursday week's primaries and general election for county seats? Have you made up your mind yet on issues and candidates? Are there questions you would like to throw at any particular man running?

A non-partisan rally will be held this month to give Anderson County voters an opportunity to hear and question these office-seekers who will be competing in the August 4 election.

The Oak Ridge League of Women Voters has invited all state and county candidates to attend two rallies . . . one set in Oak Ridge . . . and one in Clinton this month.

The Oak Ridge rally is set for Friday, July 29, at 8 p.m. at Blankenship Field. Moderator for this meeting will be Joe Couch, Oak Ridge Junior Chamber of Commerce. The Jaycees have joined with the League to present this rally on WATO.

The Clinton rally is set for Saturday, July 30, at 7:30 p.m.

1951 through 1965. During the 14-year period Carco made 83,620 flights for the AEC, more than 17 million miles, without an accident resulting in major damage to an aircraft or injury to a passenger or crew member. Carco's passengers over the period numbered nearly 400,000 and freight, baggage, and mail totaled over 43 million pounds.

Y-12's frequency rate for 1966 thus far is 0.79 . . . more than twice what it was last year. The plant has already sustained four disabling injuries through July . . . as many as happened during all of 1965.

To improve the safety picture over 1965 . . . renewed efforts must be exerted to eliminate accidents and their causes.

at the Clinton Elementary School. Moderator in Clinton will be Horace Wells, editor and publisher of the Clinton Courier-News.

Replies to questionnaires which the League sent all candidates have been compiled in book form to be distributed at the rallies along with sample ballots of next week's election. A question and answer period will follow timed speeches delivered by the candidates.

Meanwhile, it is announced that employees who are unable to vote outside their regular working hours may be excused without loss of pay in next week's elections. It is based on the distance to be traveled to the polling place and time it closes. Check with your supervisor to see if you need to be excused to exercise your democratic right.

Polling places in Anderson and Knox counties will be open until 7 and 8 p.m. respectively, and no voters will need time off in these two counties. Other polling places may close earlier. If there is a question as to the closing time of a polling place, contact Labor Relations, extension 3-7751.

Well-Worn Class Ring Found At Park Area

Somebody lost a class ring at the Carbide Recreation Area. The ring has a blue, rectangular stone with a well-worn crest in it. It is either a 1948 or 1949 ring. The high school ring is well-worn and the name of the school is not legible.

Edgar Mott, extension 3-5669, has the ring . . . and will be happy to surrender it to its rightful owner. Mott's son, incidentally, lost a swimming fin over at the park . . . and will offer a small reward for its return. After all, you can't use just one!

American Creed

"I believe in the United States of America, as a government of the people, by the people, for the people; whose just powers are derived from the consent of the governed; a democracy in a republic; a sovereign nation of many sovereign states; a perfect union, one and inseparable; established upon these principles of freedom, equality, justice and humanity for which American patriots sacrificed their lives and fortunes.

"I therefore believe it is my duty to my country to love it, to support its constitution, to obey its laws, to respect its flag, and to defend it against all enemies." —William Tyler Page.